UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,308	03/11/2005	Ingemar Backlund	2483-49	9844

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EXAMINER
FEARER, MARK D

ART UNIT	PAPER NUMBER
2143	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/500,308	BACKLUND, INGEMAR
Office Action Summary	Examiner	Art Unit	
	MARK D. FEARER	2143	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 March 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-21</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-21</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>28 June 2004</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

    1.☒ Certified copies of the priority documents have been received.

    2.☐ Certified copies of the priority documents have been received in Application No. _____.

    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *See Continuation Sheet.*

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :28 June 2004 and 14 August 2008.

DETAILED ACTION

Priority

1.   Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Information Disclosure Statement

2.   The information disclosure statements (IDS) submitted on 28 June 2004 and 14

August 2008 have been considered by the examiner.

Preliminary Amendment

3.   Acknowledgement is made of the preliminary amendment filed 28 June 2004.

Drawings

4.   The drawings are objected to because Figure 1 and Figure 3 lack descriptive

labels. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

5.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 14-21 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter. The language of the claim raises a question as

to whether the claim is directed merely to an abstract idea that is not tied to a

technological art, environment or machine which would result in a practical application

producing a concrete, useful, and tangible result to form the basis of statutory subject

matter under 35 U.S.C. 101.

Claims 14-21 claim the non-statutory subject matter of a program. Data

structures not claimed as embodied in computer-readable media are descriptive

material per se and are not statutory because they are not capable of causing functional

change in the computer. See, e.g., Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1754

(claim to a data structure per se held nonstatutory). Therefore, since the claimed

programs are not tangibly embodied in a physical medium and encoded on a computer-

readable medium then the Applicants has not complied with 35 U.S.C 101.

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7.   Claims 1-21 are rejected under 35 U.S.C. 102(b) as being anticipated by

Puuskari (US 6728208 B1).

Consider claims 1, 5-6 as applied to claim 1, 14, 17, and claims 19-21 as applied

to claim 14. Puuskari discloses a method in a data communication system wherein data

is transmitted by use of at least two protocols that are capable of re-transmission of

data, each of said protocols being implemented in at least two nodes of said data

communication system, the implementation of a protocol implemented in a transmitting

node being a transmitting protocol entity and the implementation of a protocol in a

receiving node being a receiving protocol entity, one of said at least two protocols

capable of re-transmission of data being a higher layer protocol than another of said at

least two protocols, said another protocol therefore being a lower layer protocol, the

higher layer transmitting protocol entity providing the lower layer transmitting protocol

entity with a protocol data unit to be transmitted, said method comprising the following

steps: a waiting, in the higher layer transmitting protocol entity, a transmission result

from said lower layer transmitting protocol entity, said transmission result reporting the

result of the transmission of said protocol data unit by said lower layer transmitting

protocol entity (("If both reliable and unreliable paths are employed between the MS and

the SGSN, it is required that the LLC layer multiplexes several NSAPI of one user onto

several SAPIs in the MS and SGSN. Logical Link Entities (LLE) may establish all

connections, i.e. the SAPIs, beforehand or only on demand. These SAPIs/links should

not be teared down immediately after serving one request. A timer, for example, may

control the tearing down of LLC connections associated with SAPIs. The SNDC layer

decides, based on the TLLI and the delay class or optionally also the reliability class,

which SAPI it will use to transfer the packet in question. The SNDC layer can perform

segmentation of SN-PDUs as usual. Then, the SNDC layer gives the packet to the LLC

layer using the appropriate SAP. The LLC layer transmits the packet over the LLC/radio

connection as usual. At the other end, the SNDC layer receives packets from the

different LLEs and associates them with the correct NSAPIs. Ordering of packets is not

essential because packets using different QoS either belong to different application-

level connections or are reordered based on their QoS values, which is the purpose of

QoS values in the first place.") column 14 lines 33-53); receiving, in said higher layer

transmitting protocol entity, said transmission result; deciding, responsive to said

transmission result, whether the higher layer transmission protocol entity should re-

provide said lower layer transmitting protocol entity with said protocol data unit; and

identifying, by the higher layer transmitting protocol entity in communication with the

lower layer transmitting protocol entity, said protocol data unit by use of an identifier

(("For Mobile Terminated (MT) data packets, the same procedure applies, only the

transmission direction is reversed. In this case, it is the GGSN who selects the

appropriate GTP path, the SGSN looks inside the downlink GTP header in order to find

the traffic type and QoS information. The SGSN also adds the QoS information to

downlink SNDCP packets, makes the scheduling based on packet delay classes, and

decides the correct LLC SAPI to be used. The Mobile Terminal may change the

application's IP header in order to inform the Terminal Equipment (TE) of the QoS of the

downlink data packet. Alternatively, the MS might use some GPRS or PPP specific

mechanisms for delivering the same information to the TE. Scheduling and policing

operations inside the network elements are basically the same in both directions.")

column 15 lines 26-40).

        Consider claim 2, as applied to claim 1. Puuskari discloses a method wherein

encapsulation of data is carried out by means of protocols located in different nodes

(("GPRS transparently transports PDP PDUs between external networks and MSs.

Between the SGSN and the GGSN, PDP PDUs are routed and transferred with the IP

protocol. The GPRS Tunnelling Protocol transfers data through tunnels. A tunnel is

identified by a tunnel identifier (TID) and a GSN address. All PDP PDUs are

encapsulated and decapsulated for GPRS routing purposes. Encapsulation functionality

exists at the MS, at the SGSN, and at the GGSN. Encapsulation allows PDP PDUs to

be delivered to and associated with the correct PDP context in the MS, the SGSN, or

the GGSN. Two different encapsulation schemes are used; one for the GPRS backbone

network between two GSNs, and one for the GPRS connection between SGSN and

MS.") column 9 lines 52-65).

Consider claim 3, as applied to claim 1. Puuskari discloses a method wherein

said identifier is an identifier local to the communication between the higher layer

transmitting protocol entity and the lower layer transmitting protocol entity (("Between

SGSN and MS, a SGSN or MS PDP context is uniquely addressed with a TLLI and a

NSAPI pair. TLLI is assigned when the MS initiates the Attach function. NSAPIs are

assigned when the MS initiates the PDP Context Activation function. ") column 10 lines

6-10).

Consider claim 4, as applied to claim 3. Puuskari discloses a method wherein

said identifier is assigned to said protocol data unit by said higher transmitting protocol

entity (column 10 lines 6-10).

Consider claim 7, as applied to claim 6. Puuskari discloses a method wherein

said transmission result is transmitted to said higher layer transmitting protocol entity in

a message which is transparently relayed by some or all of any intermediate protocol

entities (("The serving GPRS support node SGSN is a node which serves the mobile

station MS. Each support node SGSN controls a packet data service within the area of

one or more cells in a cellular packet radio network, and therefore, each support node

SGSN is connected (Gb interface) to a certain local element of the GSM system. This

connection is typically established to the base station system BSS, i.e. to base station

controllers BSC or to a base station BTS. The mobile station MS located in a cell

communicates with a base station BTS over a radio interface and further with the

support node SGSN to the service area of which the cell belongs through the mobile

communication network. In principle, the mobile communication network between the

support node SGSN and the mobile station MS only relays packets between these two.

To realize this, the mobile communication network provides packet-switched

transmission of data packets between the mobile station MS and the serving support

node SGSN. It has to be noted that the mobile communication network only provides a

physical connection between the mobile station MS and the support node SGSN, and

thus its exact function and structure is not significant with respect to the invention. The

SGSN is also provided with a signaling interface Gs to the visitor location register VLR

of the mobile communication network and/or to the mobile services switching centre,

e.g. signaling connection SS7. The SGSN may transmit location information to the

MSC/VLR and/or receive requests for searching for a GPRS subscriber from the

MSC/VLR.") column 6 lines 57-67 and column 7 lines 1-16).

Consider claim 8, as applied to claim 6. Puuskari discloses a method wherein said protocol data unit is identified, by the lower transmitting protocol entity in communication with the higher layer transmitting protocol entity, by use of an identifier (("The Network layer Service Access Point Identifier (NSAPI) and Temporary Logical Link Identity (TLLI) are used for network layer routing. A NSAPI/TLLI pair is unambiguous within a routing area. In the MS, NSAPI identifies the PDP service access point (PDP-SAP). In the SGSN and GGSN, NSAPI identifies the PDP context associated with a PDP address. Between the MS and SGSN, TLLI unambiguously identifies the logical link. NSAPI is a part of the tunnel identifier (TID). TID is used by the GPRS Tunnelling protocol between GSNs to identify a PDP context. A TID consists of an IMSI and a NSAPI. The combination of IMSI and NSAPI uniquely identifies a single PDP context. The TID is forwarded to the GGSN upon PDP Context Activation and it is used in subsequent tunneling of user data between the GGSN and the SGSN to identify the MS's PDP contexts in the SGSN and GGSN. The TID is also used to forward N-PDUs from the old SGSN to the new SGSN at and after an inter SGSN routing update.") column 9 lines 29-46).

Consider claim 9, as applied to claim 8. Puuskari discloses a method wherein an identifier is assigned to the protocol data unit by said lower layer transmitting protocol entity (column 9 lines 29-46).

Consider claim 10, as applied to claim 1. Puuskari discloses a method wherein said higher layer transmitting protocol entity and said lower layer transmitting protocol entities are located within different nodes (("In order to send and receive GPRS data, the MS shall activate the packet data address that it wants to use, by requesting a PDP activation procedure. This operation makes the MS known in the corresponding GGSN, and interworking with external data networks can commence. More, particularly a PDP context is created in the MS and the GGSN and the SGSN.") column 7 lines 59-65).

Consider claims 11, and 12 as applied to claim 11. Puuskari discloses a method wherein a radio interface is a radio interface in a mobile radio communication system (("Logical Link Control (LLC) provides a highly reliable ciphered logical link. LLC shall be independent of the underlying radio interface protocols in order to allow introduction of alternative GPRS radio solutions with minimum changes to the NSS. LLC is specified in GSM 04.64.") column 8 lines 66-67 and column 9 lines 1-3).

Consider column 13, as applied to claim 12. Puuskari discloses a method wherein a mobile radio communication system is a mobile radio communication system operating according to the General Packet Radio System standard; and the higher layer transmitting protocol entity is a Logical Link Control protocol and the lower layer transmitting protocol entity is a Radio Link Control/Media Access Control protocol (("Current GPRS QoS profile contains five parameters: service precedence, delay class,

reliability, and mean and peak bit rates. Service precedence defines some kind of

priority for the packets belonging to a certain PDP context. Delay class defines mean

and maximum delays for the transfer of each data packet belonging to that context.

Reliability in turn specifies whether acknowledged or unacknowledged services will be

used at LLC and RLC (Radio Link Control) layers. In addition, it specifies whether

protected mode should be used in case of unacknowledged service, and whether the

GPRS backbone should use TCP or UDP to transfer data packets belonging to the PDP

context. Furthermore, these varying QoS parameters are mapped to four QoS levels

available at LLC layer.") column 2 lines 22-35).

Consider claim 15, as applied to claim 14. The computer program of claim 14,

further comprising computer code portions for allocating an identifier to each protocol

data unit, and computer code portions for informing said another computer program

about said identifier (("Between SGSN and MS, a SGSN or MS PDP context is uniquely

addressed with a TLLI and a NSAPI pair. TLLI is assigned when the MS initiates the

Attach function. NSAPIs are assigned when the MS initiates the PDP Context Activation

function.") column 10 lines 6-10).

Consider claim 16, as applied to claim 14. Puuskari discloses a computer

program, said computer code portions for providing and re-providing being adapted to

provide and re-provide according to the Logical Link Control protocol (("In one

embodiment of the invention also reliability is, instead of or in addition to being employed at PDP context level as is currently done in the prior art, directly associated with the QoS information in the data packet. The communications network, e.g. at the LLC layer, is arranged to provide different connections each of which is associated with different reliability and QoS support. These connections may be provided in any one or several legs in the mobile communications network, e.g. at the radio interface and/or in a transmission link between two nodes in the network. One connection may be a connection oriented path having a higher reliability due to a retransmission protocol, for example, and another connection may be a connectionless path (e.g. using a User Datagram Protocol, UDP) having a lower reliability. Data packets are multiplexed over these connections based on the reliability and QoS information. The data packets requiring reliable transmission, should be sent over a reliable connection-oriented path. The data packets that do not require reliable connection-oriented path, should be sent over connectionless path. Both the connection-oriented and the connectionless path can be established to transfer packets of only one PDP tunnel or they can be used by several PDP tunnels. Furthermore, the establishment of different paths with different reliabilities can be dynamic or static (i.e. on demand or when the tunnel (PDP context) is created). This concept of the invention may applied in any packet data communications network, even in one not using any PDP context, such as TCP/IP, ATM, or X.25 networks.") column 4 lines 55-67 and column 5 lines 1-15).

Consider claim 18, as applied to claim 17. Puuskari discloses a computer

program, said computer code portions for receiving, transmitting and re-transmitting

being adapted to receive, transmit and re-transmit according to the Radio Link

Control/Media Access Control protocol (("RLC/MAC layer contains two functions: The

Radio Link Control function provides a radio-solution-dependent reliable link. The

Medium Access Control function controls the access signaling (request and grant)

procedures for the radio channel, and the mapping of LLC frames onto the GSM

physical channel.") 9 11-16).

Conclusion

8.   Any response to this Office Action should be faxed to (571) 273-8300 or mailed

to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Mark Fearer whose telephone number is (571) 270-

1770. The Examiner can normally be reached on Monday-Thursday from 7:30am to

5:00pm.

     If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Tonia Dollinger can be reached on (571) 272-4170. The fax phone number

for the organization where this application or proceeding is assigned is (571) 273-

8300.

     Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100.

     Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist/customer service whose telephone

number is (571) 272-2600.

Mark Fearer
/M.D.F./
August 25, 2008

/Tonia LM Dollinger/

Supervisory Patent Examiner, Art Unit 2143